

Listing of Claims:

1-20. (canceled)

21. (currently amended) A method for identifying an agent for treating a diabetic or pre-diabetic individual having impaired glucose-induced insulin secretion, the method comprising the steps of:

- (i) contacting a candidate agent with a polypeptide having glucose phosphorylating activity that comprises SEQ ID NO:2;
- (ii) determining binding of the agent to the polypeptide, wherein determining binding of the agent to the polypeptide comprises determining the activity of the polypeptide;
- (iii) selecting an agent that decreases the activity of the polypeptide;
- (iv) administering the agent to a diabetic or pre-diabetic animal;
- (v) determining the level of glucose-induced insulin secretion in the animal in response to glucose; and
- (vi) selecting the agent that improves the response to glucose.

22-34. (canceled)

35. (previously presented) The method of claim 21, wherein the contacting step comprises contacting a cell that expresses the polypeptide with the candidate agent.

36. (previously presented) The method of claim 35, wherein the cell comprises an expression vector that expresses the polypeptide.

37. (previously presented) The method of claim 35, wherein the cell is a pancreatic islet cell.